

The Builder.

No. CCLV.

SATURDAY, DECEMBER 25, 1847.



THE close of our volume, for some years past, we have taken occasion, with, we hope, excusable gratulation, to point attention to the improved character of THE BUILDER, and to express our thanks for that best evidence of appreciation of our endeavours on the part of the public,—a greatly increased circulation. If we were justified on those occasions, no one, we venture to think, will question our right to use modestly the same expressions in terminating this, the fifth volume of our work. A glance through it will serve to shew that we have redeemed our pledges given at the commencement of the year, and that THE BUILDER for 1847 is, beyond question, a great advance on those which have preceded it.

The illustrations, prepared at much larger cost than heretofore, include, besides numerous examples of ancient architecture, foreign and domestic, and many details in the shape of gables, doors, windows, screens, letters, pulpit, &c., a number of modern works, completed or commenced. Of these we may mention the new church in Wells-street, Marylebone; the Théâtre Montpensier, in Paris, with plan; our Ambassador's House at Constantinople; the Covent Garden Opera House; the Carlton Club; a series of views from the new Houses of Parliament; Homerton new Church; Miss Coutts's Church, Westminster; the new Front of Buckingham Palace; the Interior of Drury Lane Theatre; the Institution of Civil Engineers; the Army and Navy Club; the Lyceum Theatre, with plan; the London COAL Exchange, and Ware Church, restored. The examples of ancient foreign architecture include buildings in Treves, Igel, Bruges, Antwerp, Chalons-sur-Marne, Ghent, Semur, Dijon, Tours, and Cologne; and the views of ancient English structures comprise churches and residences in Tutbury, Barfreston, Kenilworth, Leicester, Gloucester, Ely, Wells, Stratford-on-Avon, Coventry, and other places.

To the literary portion of the work we refer less willingly; suffice it to say, that none of the important questions within our scope which have occupied public attention have been neglected, and that in many instances, the public have received earlier and more correct information through the pages of THE BUILDER than from any other source.

While the character of THE BUILDER has been advancing, so has its circle of readers extended, and it is now to be found on the table of the most illustrious gentleman in the kingdom, in all the Government offices, and in the studio of the clergyman and the landed proprietor, as well as in the more humble dwelling of the operative.

The countenance which has been afforded us by his Royal Highness the Prince Albert, while we may be justified in regarding it as a high and most gratifying personal compliment, will be viewed by all as another evidence of his Royal Highness's constantly evinced desire to aid all undertakings which have for their object social improvement and the advancement of science and the arts.

It will be our object to render THE BUILDER worthy of the favour which is shewn it

in all quarters, and, to be enabled to effect this, we propose in the ensuing year to make a slight alteration in the price,—that is, to raise the cost of the weekly number from 3d. to 4d. A better paper, new type, and additional illustrations of first-rate excellence, will not be considered, we trust, too dearly paid for by the proposed increase,—indeed, judging from communications we have received, which have in some degree led us to make this change, we may hope that it will meet the wishes of the great majority of our readers. That this may be the case is our anxious desire. Apart from pecuniary motives, to lose a reader is to us something like losing a friend, which we would not willingly risk. We have sought to establish kindly relations with our readers. As we said at the beginning of the year, "we desire to stand well with them; to have their confidence; we would enlist their aid and secure their esteem. To be thought honest and useful recorders of facts,—even able expounders of principles (high praise as it would be), is not the extent of our ambition. We would have it felt that we have high objects in view, and are impelled by loftier motives than pecuniary profit or desire for reputation: that we are labouring, honestly and sincerely, to advance the well-being and the happiness of our fellow men, and would find greater reward in effecting this than in personal success."

We hope, then, in the coming year, to find, with a large accession of new friends and assistants, all our old ones about us; and in the meantime, heartily offer them all those good wishes that belong to the season, and in the expression of which, though they may be in many cases but mere words of course, from the lip rather than the heart, the world will do well to continue; and better, if it act as if it meant what was said.

A very full Table of Contents has been carefully prepared, so as to render the information contained in the volume available for reference, and, with the Title-page, will be presented *gratuitously*, with the next number. A Title-page in colours has been printed, and may be obtained also gratuitously, by those subscribers who prefer it to that which accompanies the Index.

Covers for THE BUILDER may be obtained at the Office, price 2s.; or the publisher will undertake to bind the numbers at 3s. per volume.

THE PRINCIPLES AND PRACTICE OF BUILDING SEWERS.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

AN ordinary meeting of the Institute of Architects was held on the 13th instant,—Mr. Angell, vice-president, in the chair,—when the Cavalière Matas, of Florence, and Herr Zwirner, of Cologne, were elected corresponding members; Mr. C. Lee, fellow; and Messrs. Eddrup, Kelly, and Wadmore, associates.

Mr. Edward P. Anson read a paper on "The Principles and Practice of Building Sewers in the Metropolis." He said he proposed to confine himself to the question of construction, and not to refer to recent events in connection with the late commissioners, concerning which there might be different opinions amongst those present. In arranging sewerage, the determination of the best outlet was the most important consideration: it was sometimes necessary to take it a considerable distance to secure a good fall. Two main points should be studied: the first was to have it deep enough for the lowest basement in the lowest district; and the second, to obtain a continuous flow from end to end. To have a sewer deeper than deep enough he thought foolish. The

higher the outlet was, the better it was, because it had more time to discharge itself: every foot above low-water mark was important. He had prepared some tables, marking the time occupied in the rise and fall of the tide. These shewed that while the average of the time occupied by the second and third foot was nine minutes, the last foot took fifty minutes to run down. It was possible to have too much fall. At Holborn-bill the sewer bottom was galled out by too rapid fall. With a fall of 1 in 300 no deposit took place: greater fall than this he thought injurious. There was usually little fear of this, however; the difficulty usually was to obtain sufficient fall. Rotherhithe, for example, was eight or ten feet below low-water mark. A slighter fall was sufficient than is usually considered necessary. There had been a sewer under his control which fell but 16 inches in 5,000 feet, yet was always clean.

To obtain uniform fall was important: a hollow place received deposits, and became a nucleus of obstruction. The next inquiry was as to the best form of sewer. The egg-shaped was at this moment the fashionable form, and in two commissions had obtained absolute dominion. Opinions varied: Mr. Hosking was in favour of the egg-formed, so was Mr. Cresy. In Mr. Chadwick's report of 1842 this form was considered best. In his own opinion the cry had been carried too far,—perfection did not lie in an egg. Mr. Gwilt objected to this form, and so did the late surveyor to the city of London. The form should be adapted to the circumstances: the circular, elliptical, or egg-formed might be the best according to the situation.

Then as to the size: it was most important in practice that sewers should be large enough for a man to pass along them: by this the size should be regulated: the expense was not much increased by adhering to this principle. The area of enclosing for a given discharge was least with the circle and greatest with the egg-formed. It was important, however, to have means of scouring sewers, and he was disposed to admit that the egg-shape had advantages in this respect. Still he could not avoid remembering that water was discharged through a cylinder faster where friction is least, and was led therefore to think, that with the same quantity of water the velocity would be less in the egg-formed than in circular sewers, and the time occupied in discharge was important. As to the great question of how large the sectional area should be, he must urge that it should not merely be large enough for ordinary wants, but should provide for casualties. On the 1st of August in last year an unusual quantity of water fell; at Camberwell, for example, 3½ inches fell in two hours and seventeen minutes; and on that occasion, as on many others, sewers of very large size were found to be too small.

He would now speak of the construction of sewers. Much had been said of forming sewers of half-brick-work: in the Tower Hamlets' sewers 3 feet 6 inches high and 2 feet 3 inches wide had been so formed; he could not, however, assent to the wisdom of this: if sewers were to be considered public works, he thought these experiments were not proper. The reader then described the present mode of constructing sewers. In 1811 his father had used cast-iron inverted for loose ground with much success. A Mr. Kerrieh had taken out a patent for concrete masses for use in this position. Some system of flushing he thought absolutely necessary. To dispose of the gases generated in sewers was a difficult question. More, perhaps, was said about their dangerous qualities than was necessary. Some experiments were now going on which he understood would establish this: the experimenter found it difficult to obtain a cube foot of poisonous gas from the sewers. To shew how easy a case might be made on either side, a female, who lived near one of the open street-gratings so much complained of, had assured a friend of his that she had never been well till she came there! He attached no importance to this story, but it certainly was a fact, that when London was ravaged by the cholera, no case occurred amongst the workmen employed in the sewers. The reader then spoke of house-drains, and said he thought large brick-barrelled drains were advisable. He drew attention, with praise, to the earthenware drain-pipes recently introduced. By those of larger size, however, nothing was saved in expense; the 12 inches